

AMENDMENTS TO THE CLAIMS

Please AMEND claims 1, 2, 5, 10, 11, 13, 17-19, 21, 25, 27, 28, 32 and 34, ADD claims 35-43, and CANCEL claims 3, 7, 9, 14-16, 20, 23, 29-31 and 33 in accordance with the following:

1. (Currently Amended) A method for managing [[an]] a write-once optical recording medium having at least one defective area in a user data area,

wherein the optical recording medium comprises one or more temporary defect management areas and a final defect management area, and said method comprises ~~comprising~~:

(a) recording data ~~recorded in~~ of the at least one defective area existing in the user data area [[in]] into a spare area of the optical recording medium as replacement data and providing a first temporary defect list having a defect entry for the at least one defective area;

(b) recording, in a ~~one of the one or more~~ temporary defect management area~~areas~~, a cumulative temporary defect list for an additional defective area in the user data area, wherein the cumulative temporary defect list includes the first temporary defect list previously recorded and at least one additional ~~defective~~ defect entry for any additional defective area, each defect entry including position information of a corresponding defective area and position information of replacement data to replace data of the corresponding defective area;

(c) recording, in the same temporary defect management area on which the cumulative temporary defect list is recorded, access information for accessing the cumulative temporary defect list; and

(d) recording a latest cumulative temporary defect list recorded in the one temporary defect management area in [[a]] the final defect management area when the optical recording medium is to be finalized, wherein after finalizing the optical recording medium no additional recording is made to the optical recording medium,

wherein the one or more temporary defect management ~~areas~~ area is ~~are~~ separately positioned from the final defect management area ~~and the cumulative temporary defect list is recorded on a different area from an area into which the first temporary defect list is recorded within the temporary defect management area.~~

2. (Currently Amended) The method according to claim 1, ~~further comprising wherein the step of (c) records recording information for accessing the cumulative temporary defect list as temporary disc definition structure information as the access information in a temporary disc definition structure area of the temporary defect management area.~~

3-4. (Cancelled)

5. (Currently Amended) The method according to claim 2, ~~further comprising recording the~~ wherein the step of (d) comprises recording a latest temporary disc definition structure information ~~[[in]]~~ into the final defect management area when the recording medium is to be finalized.

6-9. (Cancelled)

10. (Currently Amended) The method according to claim ~~[[9]]~~ 1, wherein ~~the management information includes the position information of the corresponding defective area indicates a first physical sector number of the corresponding defective area and the position information of the replacement data indicates a first physical sector number of the replacement data recorded in the spare area for each defect entry and a first physical sector number of a defective area for each defect entry.~~

11. (Currently Amended) The method according to claim 1, wherein the spare area of the optical recording medium includes an inner spare area and an outer spare area, and the step of ~~recording data recorded in the defective area(a)~~ utilizes at least one of the inner spare area and the outer spare area.

12. (Original) The method according to claim 1, wherein the cumulative temporary defect list is repeatedly recorded in at least two areas of the optical recording medium.

13. (Currently Amended) The method according to claim 1 ~~[[12]]~~, wherein ~~the at least two areas of the optical recording medium the one or more temporary defect management areas~~ are located in a portion of a data area and a lead-in area of the optical recording medium.

14-16. (Cancelled)

17. (Currently Amended) A write-once recording medium comprising:

at least one spare area and a user data area within a data area;

[[a]] one or more temporary defect management areas ~~area~~ for managing replacement data of at least one defective area within [[a]] the user data area of the data area, the one or more temporary defect management ~~area~~ areas configured to store a plurality of cumulative temporary defect lists and access information, the access information being used for accessing a corresponding cumulative temporary defect list and being stored in the same temporary defect management area on which the corresponding cumulative temporary defect list is stored,

wherein one of the cumulative temporary defect lists includes management information for the replacement data of said at least one defective area cumulatively recorded and management information for replacement data for at least one additional defective area of the user data area, each defect entry of the plurality of cumulative temporary defect lists including position information of a corresponding defective area and position information of replacement data to replace data of the corresponding defective area, wherein after the recording medium is finalized no additional recording is made to the recording medium and each cumulative temporary defect list is recorded on a different area within the temporary defect management area; and

a final defect management area for storing a latest cumulative temporary defect list recorded in the one or more temporary defect management areas ~~area~~ when the recoding medium is to be finalized,

wherein the one or more temporary defect management areas ~~area is~~ are separately positioned from the final defect management area.

18. (Currently Amended) The recording medium according to claim 17, ~~further comprising a temporary disc definition structure within a lead-in area of the recording medium,~~ wherein recording the access information ~~for accessing the cumulative temporary defect list~~ is stored as temporary disc definition structure information ~~within the temporary disc definition structure.~~

19. (Currently Amended) The recording medium according to claim 18, wherein the cumulative temporary defect list and the temporary disc definition structure information are recorded in a at least one of the one or more temporary defect management areas located in the lead-in area of the ~~optical~~-recording medium.

20. (Cancelled)

21. (Currently Amended) The recording medium according to claim 18, wherein the final defect management area further stores ~~includes a~~ latest temporary disc definition structure information when the recording medium is to be finalized.

22-24. (Cancelled)

25. (Currently Amended) The recording medium according to claim 17, wherein ~~each of the management of the cumulative temporary defect list~~ the position information of the corresponding defective area includes a first physical sector number of the corresponding

defective area and the position information of the replacement data includes a first physical sector number of the replacement data recorded in the at least one spare area~~for each defect entry~~ and a first physical sector number of a defective area ~~for each defect entry~~.

26. (Original) The recording medium according to claim 17, wherein the at least one spare area includes an inner spare area and an outer spare area, and the replacement data for the at least one defective area is located in at least one of the inner spare area and the outer spare area.

27. (Currently Amended) The recording medium according to claim 17, wherein ~~[[the]]~~ each cumulative temporary defect list is repeatedly recorded in at least two areas of the recording medium.

28. (Currently Amended) The recording medium according to claim ~~[[27]]~~ 17, wherein ~~the at least two areas of the recording medium~~ the one or more temporary defect management areas are located in a portion of a ~~the~~ data area and a lead-in area of the recording medium.

29-31. (Cancelled)

32. (Currently Amended) An apparatus for managing an optical recording medium having at least one defective area in a user data area ~~temporary defect management area, and a spare area in a data area,~~

wherein the recording medium comprises one or more temporary defect management areas and a final defect management area, and said apparatus comprises comprising:

a recording unit configured to record data ~~recorded in~~ of the at least one defective area ~~[[of]] into the~~ a spare area in the optical recording medium as replacement data and to provide a first temporary defect list having a defect entry for the at least one defective area;

the recording unit being configured to record, in at least one of the one or more a temporary defect management ~~area~~areas, a cumulative temporary defect list for an additional defective area in ~~[[a]] the~~ user data area, wherein the cumulative temporary defect list includes the first temporary defect list previously recorded and at least one additional ~~defective~~ defect entry for any additional defective area, each of the defect entry including position information of a corresponding defective area and position information of replacement data to replace data of the corresponding defective area,

the recording unit being configured to record, in the same temporary defect management area on which the cumulative temporary defect list is recorded, access information for accessing the cumulative temporary defect list; and

the recording unit being configured to record a latest cumulative temporary defect list recorded in the one or more temporary defect management areas ~~area in~~ into a final defect management area when the optical recording medium is to be finalized, wherein after finalizing the optical recording medium no additional recording is made to the optical recording medium, and

the one or more temporary defect management areas ~~[[is]]~~ are separately positioned from the final defect management area ~~wherein the cumulative temporary defect list is recorded on a~~

~~different area from an area into which the first temporary defect list is recorded within the temporary defect management area.~~

33. (Cancelled)

34. (Currently Amended) The method of claim ~~[[33]]~~ 1, wherein the cumulative temporary defect list and the access information of the cumulative temporary defect list are included in ~~[[the]]~~ a first data block is a single consisting of one or more clusters, data unit and recorded in the same temporary defect management area.

35. (New) The recording medium of claim 17, wherein each access information and the corresponding cumulative temporary defect list are included in a first data block consisting of one or more clusters, and recorded in the same temporary defect management area.

36. (New) The apparatus of claim 32, wherein the recording unit comprises:
a pickup configured to record/reproduce data on/from the optical recording medium; and
a controller operatively coupled to the pickup and configured to control the pickup to record the cumulative temporary defect list and the access information into the same temporary defect management area; and, when the optical recording medium is to be finalized, control the pickup to record the latest cumulative temporary defect list into the final defect management area.

37. (New) The apparatus of claim 36, wherein the controller is configured to control the pickup to record temporary disc definition structure information as the access information.

38. (New) The apparatus of claim 37, wherein the controller is configured to further record latest temporary disc definition structure information into the final defect management area when the optical recording medium is to be finalized.

39. (New) The apparatus of claim 32, wherein the cumulative temporary defect list is repeatedly recorded in at least two temporary defect management areas.

40. (New) The apparatus of claim 39, wherein the at least two temporary defect management areas are located in a data area and a lead-in area of the optical recording medium.

41. (New) The apparatus of claim 37, wherein the controller is configured to control the pickup to record, into the same temporary defect management area, a data block consisting of one or more clusters and having the cumulative temporary defect list and the access information of the cumulative temporary defect list.

42. (New) A method for reproducing management information for managing a defect on an optical recording medium having at least one defective area in a user data area,

wherein the optical recording medium comprises one or more temporary defect management areas and a final defect management area, and said method comprises:

before the optical recording medium is finalized, reproducing access information for accessing a cumulative temporary defect list from one of the one or more temporary defect management areas on which the cumulative temporary defect list is recorded, and reproducing the cumulative temporary defect list for managing defective areas existing in a data area from the same temporary defect management area on which the access information is recorded based on the access information, wherein the cumulative temporary defect list includes both a defect entry included in a previous temporary defect list and a new defect entry for a new defective area existing in the data area, each defect entry including position information of a corresponding defective area and position information of replacement data to replace data of the corresponding defective area, and reproducing the replacement data from a spare area of the optical recording medium based on the cumulative temporary defect list; and

after the optical recording medium is finalized, reproducing a finalized cumulative temporary defect list from the final defect management area, and reproducing the replacement data from the spare area based on the finalized cumulative temporary defect list reproduced from the temporary defect management area,

wherein the one or more temporary defect management areas are separately positioned from the final defect management area and no additional recording is made to the optical recording medium after finalizing the optical recording medium.

43. (New) An apparatus for reproducing management information for managing a defect on an optical recording medium having at least one defective area in a user data area,

wherein the optical recording medium comprises one or more temporary defect management areas and a final defect management area, and said apparatus comprises:

a pickup configured to record/reproduce data on/from the optical recording medium; and

a controller operatively coupled to the pickup and configured to control, before the optical recording medium is finalized, the pickup to reproduce access information for accessing a cumulative temporary defect list from one of the one or more temporary defect management areas on which the cumulative temporary defect list is recorded, and reproducing the cumulative temporary defect list for managing defective areas existing in the data area from the same temporary defect management area on which the access information is recorded based on the access information, wherein the cumulative temporary defect list includes both a defect entry included in a previous temporary defect list and a new defect entry for a new defective area existing in the data area, each defect entry including position information of a corresponding defective area and position information of replacement data to replace data of the corresponding defective area, and to reproduce the replacement data from a spare area of the optical recording medium based on the cumulative temporary defect list; and configured to control, after the recording medium is finalized, the pickup to reproduce a finalized cumulative temporary defect list from the final defect management area, and to reproduce the replacement data from the spare area based on the finalized cumulative temporary defect list reproduced from the temporary defect management area,

wherein the one or more temporary defect management areas are separately positioned from the final defect management area and no additional recording is made to the optical recording medium after finalizing the optical recording medium.